

Pennisetum Rich. FOUNTAIN GRASS

Pennisetum clandestinum Chiov., KIKUYU GRASS. Perennial herb, evergreen, clonal, rhizomatous, stolon-bearing, fibrous-rooted at nodes, mat-forming, procumbent and low-decumbent, the longest leafy axes along stolon to 45 cm long; shoots with cauline leaves closely spaced with overlapping sheaths + 1 prophyll on inner side at base of each lateral branch, foliage pilose, not scabrous; stolons tough, with internodes to 40 mm long, to 5 mm diameter at nodes, straw-colored, channeled opposite diverging lateral shoots; rhizomes with scalelike leaves, the leaves cupped-deltate, ca. 2 mm, with veins converging at tip. **Stems (culms):** cylindric, \pm 1 mm diameter, glabrous; internodes hollow. **Leaves:** alternate distichous (especially obvious on branchlets), simple with sheath, dimorphic with a distinctive first leaf on each new shoot (prophyll); prophyll = membranous open sheath, lanceolate in outline, 9–11.5 \times ca. 2 mm, strongly 2-keeled and depressed between keels, keels short-ciliate with downward-angled teethlike hairs; sheaths mostly closed on lateral shoots (of flag leaf open and greatly overlapping), closed portion 4–6 mm long, translucent-white, low-ridged, membranous on margins and exposed margin long-ciliate ca. 6 mm below collar, lacking lobes (auricles) at top, pilose with hairs on furrows; ligule short-membranous truncate with straight hairs, to 1.7 mm long; collar white; blade wide lanceolate-linear to linear, 20–130 mm long, when young keeled and folded upward along midrib aging flatter, in range entire and margins and keel remotely toothed approaching tip, parallel-veined, sparsely pilose. **Inflorescence:** spikelets, terminal on short lateral shoot = a highly reduced cluster of 2–4 spikelets with a short axis and half-enclosed by the overlapping open sheath of flag leaf, bracteate; peduncle of inflorescence < 4 mm long; rachis without sharp angles, if 2 spikelets sometimes with fingerlike extension to 2 mm long beyond upper spikelet with or without several long, stiff hairs at tip, axis puberulent and with longer hairs at bases of spikelets; bristles subtending each spikelet in 2 lateral clusters, appressed, in range often each cluster with 6–7 unequal, colorless bristles having upward-pointing barbs, 1(2) per node, 11–14 mm long (primary bristle) but others (outer and inner bristles) not clearly defined, to 10 mm long, fine to coarse. **Spikelet:** 2-flowered with lower floret represented only by a lemma and upper floret fertile, narrowly lanceoloid, in range ca. 20 mm long, membranous and green-veined aging straw-colored; **glumes** in range absent (if present, = upper glume ovate and short); **lemma** never spreading, membranous, narrowly lanceolate with strongly overlapping margins, as long as spikelet, rounded on back, translucent with to 13 flat veins, long-tapered, glabrous; **palea** of fertile floret membranous, slightly < lemma, 2-bent but not 2-keeled, with overlapping wings, 2-veined, veins whitish, glabrous. **Flower:** bisexual, protandrous; **perianth (lodicules)** absent; **stamens** 3, free, long-exserted from tip of palea; filaments prior to anthesis to 10 mm long, at anthesis becoming threadlike, 40–55+ mm long, whitish, lax resting on foliage; anthers dorsifixed, dithecal, in range 5–5.5 mm long, yellow and tinged reddish, with sacs appressed but separate at base 2 mm and at tip 1.5 mm, longitudinally dehiscent; pollen light yellow; **pistil** 1; ovary superior, broadly ellipsoid compressed front-to-back, ca. 2 \times 1 mm, white, 1-chambered with 1 ovule; style 1, exserted to 10 mm from tip of palea, whitish, conspicuously short-plumose (feathery) at or below exserted portion, 2-branched approaching tip, the branches < 2 mm long. **Fruit:** achene (caryopsis), in

range not observed, ellipsoid compressed front-to-back, ca. 3×1.3 mm, brown, with persistent beak (base of style). Midsummer (typically only vegetative in the wild).

Naturalized. Evergreen perennial turf grass occasionally found growing in drainage ditches and creek beds in SMM and SH or in sandy situations along the coast, where uprooted stolons or rhizomes of this clonal lawn receive enough water to become established and remain viable. *Pennisetum clandestinum* is used commercially for well-manicured lawns and for fairways at certain golf courses, because, if kept well-watered, it maintains a dense, evergreen mat that resists coarse weeds. When Kikuyu grass is transported by humans or during rainstorms to a suitable site, a shoot can form a new colony. Seen in vegetative condition, its shoots, which have conspicuous, alternate distichous leaf arrangement and rooting, aboveground stolons, overall resembles the smaller-leaved Bermudagrass (*Cynodon dactylon*) and the larger-leaved St. Augustine grass (*Stenotaphrum secundatum*).

In cultivation, the C₄ Kikuyu grass flowers during midsummer conditions, but flowers are rarely observed in the wild, although once observed in Thousand Oaks. This African species has a very distinctive inflorescence, probably one that is not recognized at first as similar to other fountain grasses; it is a terminal axis with two or three spikelets, half hidden by the sheath of the flag leaf, with unnoticed clusters of bristles (reduced branchlet axes) in two clusters at the base of each spikelet, whereas in typical fountain grasses the inflorescence is large and fluffy due to the many spreading bristles. The upper floret of each 2-flowered spikelet is fertile and produces the longest filaments of any grass, which are conspicuously exerted and in cultivation ascending from the mat, and there is only one style, forked near the tip, which is long-exserted but after pollination for the inflorescence is completed. Cultivated colonies form some viable fruits, up to three per inflorescence, whereas all reproduction in the wild is assumed to be only vegetative.

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